

**Applicant:** Huang et al.  
**Application No.:** 10/783,550

**IN THE CLAIMS**

1. (Original) A production method for a paper pulp, comprising steps of:
  - (a) providing a culture solution;
  - (b) adding a fiber plant into said culture solution;
  - (c) adding a suspension of a microorganism into said culture solution;
  - (d) fermentatively culturing said culture solution for preparing a pulp solution;
  - (e) boiling said pulp solution;
  - (f) pulping said pulp solution; and
  - (g) screening said pulp solution for isolating a paper pulp from said pulp solution.
2. (Original) The method as claimed in claim 1, wherein said fiber plant is a non-woody fiber plant.
3. (Currently amended) The method as claimed in claim 1, wherein said fiber plant is pretreated by one selected from a group consisting of a relatively high pressure treatment under a relatively high temperature, a steaming treatment under a relatively high temperature, a boiling treatment under a relatively high temperature, a ~~fumigaed~~ fumigated treatment and a soaking treatment under a room temperature.
4. (Original) The method as claimed in claim 1, wherein said fiber plant is added into said culture solution by a ratio of 4~15 %.

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5. (Original) The method as claimed in claim 1, wherein said microorganism is isolated from one of a non-woody fiber plant and a livestock excrement compost.

6. (Original) The method as claimed in claim 1, wherein said microorganism is inoculated at a concentration ranged from 0 to  $10^8$  cfu / ml.

7. (Original) The method as claimed in claim 1, wherein said microorganism is a Gram positive bacterium.

8. (Original) The method as claimed in claim 1, wherein said microorganism is one selected from a group consisting of a *Bacillus licheniformis* (PMBP-m5), a *Bacillus subtilis* (PMBP-m6) and a *Bacillus amyloliquefaciens* (PMBP-m7).

9. (Original) The method as claimed in claim 1, wherein said fermentatively culturing process is proceeded at a temperature ranged from 20 to 50°C.

10. (Original) The method as claimed in claim 1, wherein said fermentatively culturing process is one of a static culture and a shaking culture.

11. (Original) The method as claim in claim 1, wherein said fermentatively culturing process is proceeded over 0~10 days.

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12. (Original) The method as claimed in claim 1, wherein said step (c) further comprises a step of adding 0 ~ 4 % (w/v) CaO into said pulp solution and boiling said pulp solution for 25~40 minutes under 120~150 °C.

13. (Original) The method as claim in claim 1, wherein said pulp solution is screened by 18~300 meshes.

14. (Original) A biopulping method for a non-woody fiber plant, comprising steps of:

- (a) providing a culture solution;
- (b) adding a non-woody fiber plant into said culture solution;
- (c) adding a suspension of a microorganism into said culture solution;
- (d) fermentatively culturing said culture solution for preparing a pulp solution;
- (e) boiling said pulp solution;
- (f) pulping said pulp solution; and
- (g) screening said pulp solution for isolating a paper pulp from said pulp solution.

15. (Original) The method as claimed in claim 14, wherein said fiber plant is pretreated by one selected from a group consisting of a relatively high pressure treatment under a relatively high temperature, a steaming treatment under a relatively high temperature, a boiling treatment under a relatively high temperature, a fumigated treatment and a soaking treatment under a room temperature.

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16. (Original) The method as claimed in claim 14, wherein said inoculation concentration of a microorganism is at a range from 0 to  $10^8$  cfu / ml.

17. (Original) The method as claimed in claim 14, wherein said microorganism is one selected from a group consisting of a *Bacillus licheniformis* (PMBP-m5), a *Bacillus subtilis* (PMBP-m6) and a *Bacillus amyloliquefaciens* (PMBP-m7).

18. (Original) The method as claimed in claim 1, wherein said step (e) further comprises a step of adding 0 ~ 4 % (w/v) CaO into said pulp solution and boiling said pulp solution for 25~40 minutes under 120~150 °C.

19. (Original) The method as claim in claim 14, wherein said pulp solution is screened by 18~300 meshes.

20-22. (Canceled)